

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s):	Dae-Gyun KIM et al.	Examiner:	Diego D. HERRERA
Serial No.:	10/777,432	Art Unit:	2617
Filed:	February 12, 2004	Docket:	678-1351 (P11718)
		Dated:	March 5, 2009

For: **APPARATUS AND METHOD FOR FAST CALL SETUP IN A MOBILE  
COMMUNICATION SYSTEM**

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P.O. Box 1450  
Alexandria, VA 22313

**TRANSMITTAL OF APPELLANTS' BRIEF ON APPEAL**

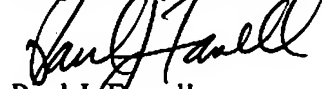
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Respectfully submitted,



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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE  
BOARD OF PATENT APPEALS AND INTERFERENCES**

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**APPELLANTS' BRIEF ON APPEAL**

**REAL PARTY IN INTEREST**

The real party in interest is Samsung Electronics Co., Ltd., the assignee of the subject application, having an office at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea.

**RELATED APPEALS AND INTERFERENCES**

To the best of Appellants' knowledge and belief, there are no currently pending related appeals, interferences or judicial proceedings.

### STATUS OF CLAIMS

The original application filed on February 12, 2004 contained Claims 1-11. In a response dated March 20, 2006, Claims 9 and 10 were amended. In a response dated October 19, 2006, Claims 1-4, 6, 7 and 9-11 were amended, and Claims 12-16 were added. In a response dated May 19, 2008, Claims 4, 6 and 9 were amended. Thus, Claims 1-16 are pending. Claims 1, 4, 6, 9 and 10 are in independent form.

### STATUS OF AMENDMENTS

Amendments to the claims, filed in a response dated December 4, 2008, after the Final Office Action dated September 4, 2008, have not been entered. Thus, the Appendix to this Appeal Brief includes Claims 1-16, the status of which are indicated as “rejected.”

### SUMMARY OF CLAIMED SUBJECT MATTER

The invention, as recited in Claim 1, relates to a method for performing call setup by a mobile station in a mobile communication system having a base station for serving the mobile station, and a mobile switching center for controlling the base station. At least one digit of a recipient's phone number is entered. In response to the entering of the at least one digit of the recipient's phone number, an origination message that does not contain a recipient's phone number is transmitted to the base station. A channel assignment message for forward and reverse traffic channels is received from the base station. Wireless channels are set up to the base station according to assignment information included in the channel assignment message. Entry of the recipient's phone number is completed. In response to a send key input, an origination continuation message containing the recipient's phone number is transmitted to the base station. (Specification, page 6, line 25, through page 8, line 3, and page 9, lines 13-30; and FIGS. 3 and 4)<sup>1</sup>.

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<sup>1</sup> Although a citation for each feature of the claims is provided herein, Appellants note that support may be found elsewhere in the written description.

The invention, as recited in Claim 4, relates to a method for performing call setup by a base station upon a call attempt by a mobile station in a mobile communication system having the base station for serving the mobile station, and a mobile switching center for controlling the base station. At least one digit corresponding to a recipient's phone number is entered. An origination message is received, by the base station, that does not contain the recipient's phone number from the mobile station. Wireless resources are assigned to the mobile station and a channel assignment message containing the assignment information is transmitted to the mobile station. After transmitting the channel assignment message, wireless channels are assigned to the mobile station. After completion of the assignment of the wireless channels, a service request message requesting assignment of a wire resource is transmitted to the mobile switching center when an origination continuation message, transmitted in response to a send key input, containing a recipient's phone number is received from the mobile station. Upon receiving a wireless resource assignment request message from the mobile switching center, the wireless resource assignment request message is acknowledged as a message indicating completion of the assignment of the wire resource in the mobile switching center, and a wireless resource assignment complete message is transmitted to the mobile switching center. (Specification, page 6, line 25, through page 8, line 3, and page 10, lines 1-20; and FIGS. 3 and 5).

The invention, as recited in Claim 6, relates to a method for performing call setup by a base station upon a call attempt by a mobile station in a mobile communication system having the base station for serving the mobile station, and a mobile switching center for controlling the base station. An origination message generated in response to the entry of at least one digit corresponding to a recipient's phone number is received. Upon receiving an origination message from the mobile station, a service request message requesting assignment of a wire resource is transmitted to the mobile switching center, wireless resources are simultaneously assigned to the mobile station, and a channel assignment message containing the assignment information is transmitted to the mobile station. Wireless channels are assigned to the mobile station. If a wireless resource assignment

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request message is received from the mobile switching center, the wireless resource assignment request message is acknowledged as a message indicating completion of the assignment of the wire resource in the mobile switching center, and after receiving an origination complete message generated in response to the entry of a send key, an assignment complete message is transmitted to the mobile switching center. (Specification, page 13, line 26, through page 15, line 13, and page 16, lines 4-27; and FIGS. 9 and 11).

The invention, as recited in Claim 9, relates to a method for performing call setup by a base station upon call attempt by a mobile station in a mobile communication system having the base station for serving the mobile station, and a mobile switching center for controlling the base station. Upon receiving an origination message, transmitted in response to the entry of at least one digit corresponding to a recipient's phone number, that does not contain the recipient's phone number from the mobile station, a service request message requesting assignment of a wire resource is transmitted to the mobile switching center, wireless resources are simultaneously assigned to the mobile station, and a channel assignment message including the assignment information is transmitted to the mobile station. After transmitting the channel assignment message, wireless channels are assigned to the mobile station. After assignment of the wireless channels, a recipient's phone number is transmitted to the mobile switching center when an origination continuation message, transmitted in response to entry of a send key, is received from the mobile station. After assignment of the wireless channels, if a wireless resource assignment request message is received from the mobile switching center in response to a service request message, the wireless resource assignment request message is acknowledged as a message indicating completion of the assignment of the wire resource in the mobile switching center, and a wireless resource assignment complete message is transmitted to the mobile switching center. (Specification, page 10, lines 29, through page 12, line 11, and page 12, line 26, through page 13, line 17; and FIGS. 6 and 8).

The invention, as recited in Claim 10, relates to a mobile station apparatus for performing call setup in a mobile communication system. A key input unit generates a key signal corresponding to a key input by a user. A radio frequency (RF) unit up-converts a signal to be transmitted to a base station into an RF signal, and down-converts an RF signal received from the

base station into a baseband signal. A modem encodes and modulates data or a message to be transmitted to the base station, provides the modulated data or message to the RF unit, and demodulates and decodes the baseband signal received from the RF unit. A controller generates an origination message, in response to the entry of at least one digit of a recipient's phone number, that does not contain the recipient's phone number and provides the origination message to the modem when a dial signal is received from the key input unit. The controller controls the RF unit to set up wireless channels for a forward and a reverse traffic channels and performs service negotiation upon receiving a channel assignment message. The controller generates, in response to an entry of a send key input, an origination continuation message containing the recipient's phone number and provides the origination continuation message to the modem when a key input complete signal is received from the key input unit. (Specification, page 16, line 29, through page 20, line 21; and FIG. 12).

The invention, as recited in Claims 5 and 8, relates to the methods of Claims 4 and 6, respectively, wherein upon receiving the assignment request message from the mobile switching center, it is determined whether assignment of the wireless channels is completed. The assignment complete message is transmitted to the mobile switching center if assignment of the wireless channels is completed. (Specification, page 13, lines 10-17, and page 16, lines 21-27; and FIGS. 8 and 11).

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-16 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,631,275 to *Martin et al.* (hereinafter, *Martin*).

#### ARGUMENT

The Examiner rejected Claims 1-16 under 35 U.S.C. § 102(e) as being anticipated by *Martin*.

#### I. Claims 1-16 are patentable over *Martin*

A. Independent Claim 1

The Examiner contends that each element of Claim 1 is taught or suggested by *Martin*.<sup>2</sup>

Claim 1 recites a method for performing call setup by a mobile station in a mobile communication system having a base station for serving the mobile station, and a mobile switching center for controlling the base station. At least one digit of a recipient's phone number is entered. In response to the entering of the at least one digit of the recipient's phone number, an origination message that does not contain a recipient's phone number is transmitted to the base station. A channel assignment message is received from the base station for forward and reverse traffic channels, and wireless channels to the base station are set up according to assignment information included in the channel assignment message. Entry of the recipient's phone number is completed, and an origination continuation message containing the recipient's phone number is transmitted to the base station, in response to a send key input.

*Martin* discloses a method for accelerating call establishment in a radio communication system. Instead of waiting for completion of dialing, the terminal immediately sends a channel request message to the network.<sup>3</sup>

*Martin* specifically describes that the terminal detects when the user picks up the receiver, generates a dial tone, and sends a channel request message to the network immediately after starting to generate the dial tone.<sup>4</sup> Thus, *Martin* fails to disclose the transmission of an origination message to the base station, in response to the entering of at least one digit of the recipient's phone number, as recited in Claim 1. Therefore, *Martin* fails to teach or suggest each element of Claim 1, and Claim 1 is patentable over *Martin*.

B. Independent Claim 4

The Examiner contends that each element of Claim 4 is taught or suggested by *Martin*.<sup>5</sup>

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<sup>2</sup> See Final Office Action dated September 4, 2008, page 3.

<sup>3</sup> See *Martin*, Abstract.

<sup>4</sup> See *Martin*, column 4, lines 65-67, and FIG. 4.

<sup>5</sup> See Final Office Action dated September 4, 2008, page 4.

Claim 4 recites, in part, a method for performing call setup by a base station upon a call attempt by a mobile station in a mobile communication system having the base station for serving the mobile station, and a mobile switching center for controlling the base station. After transmitting a channel assignment message, wireless channels are assigned to the mobile station. After completion of the assignment of the wireless channels, a service request message is transmitted to the mobile switching center requesting assignment of a wire resource when an origination continuation message containing a recipient's phone number is received from the mobile station. Upon receiving a wireless resource assignment request message from the mobile switching center, the wireless resource assignment request message is acknowledged as a message indicating completion of the assignment of the wire resource in the mobile switching center.

*Martin* describes the use of Dual Tone Multifrequency (DTMF) in Public Land Mobile Systems (PLMN) and Global System for Mobile Communication (GSM).<sup>6</sup> However, *Martin* fails to provide any disclosure relating to requesting assignment of wire resources at a mobile switching center when a recipient's phone number is received from a mobile station, and the acknowledgement of a wireless resource assignment request message from the mobile switching center as a message indicating completion of the assignment of the wire resource in the mobile switching center, as recited in Claim 4.

The Examiner contends that *Martin* discloses a system that is made of GSM and PLMN networks that support wired and wireless communications,<sup>7</sup> however, *Martin* fails to provide any disclosure that teaches or suggests the specific recitations of Claim 4 described above.

The Examiner further contends that one of ordinary skill in the art would be aware of PLMN and GSM systems and networks that collaborate with each other for connecting calls between mobile terminals and other devices.<sup>8</sup> While PLMN and GSM systems are known, *Martin* fails to provide any disclosure relating to when a service request message requesting assignment of a wire resource is sent to a mobile switching center, and what the message contains, as recited in FIG. 4.

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<sup>6</sup> See *Martin*, column 6, lines 29-37.

<sup>7</sup> See Final Office Action dated September 4, 2008, page 3.

<sup>8</sup> See Advisory Action dated December 11, 2008, page 2.



Further, *Martin* fails to provide any disclosure relating to how a base station is notified of completion of the assignment of a wire resource in the mobile switching center. A statement regarding the knowledge of the collaboration of PLMN and GSM systems and networks fails to provide proper support that the elements described above would be inherent in *Martin*.<sup>9</sup> Accordingly, *Martin* fails to teach or suggest each and every element of Claim 4, and it is respectfully submitted that Claim 4 is patentable over *Martin*.

C. Independent Claims 6 and 9

The Examiner also rejected independent Claims 6 and 9 under 35 U.S.C. §102(e) contending that Claim 6 and 9 contained similar recitations as those set forth in Claim 4.<sup>9</sup>

Appellants assert that Claims 6 and 9 are patentable for at least the reasons presented above with regard to Claim 4. More specifically, Claims 6 and 9 recite the requesting assignment of a wire resource, and if a wireless resource assignment request message is received from the mobile switching center, the wireless resource assignment request message is acknowledged as a message indicating completion of the assignment of the wire resource in the mobile switching center. As described above with regard to Claim 4, *Martin* fails to teach or suggest these elements of the claims.

Accordingly, *Martin* fails to teach or suggest each and every element of Claims 6 and 9. Therefore, it is respectfully submitted that Claims 6 and 9 are patentable over *Martin*.

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<sup>9</sup> See Final Office Action dated September 4, 2008, pages 5-7.

D. Independent Claim 10

The Examiner also rejected independent Claim 10 under 35 U.S.C. §102(e) contending that Claim 10 contained similar recitations as those set forth in Claim 1.<sup>10</sup>

Appellants assert that Claim 10 is patentable for at least the reasons presented above with regard to Claim 1. More specifically, Claim 10 recites the generation of an origination message in response to the entry of at least one digit of a recipient's phone number. As described above with regard to Claim 1, *Martin* fails to teach or suggest this element of the claim.

Accordingly, *Martin* fails to teach or suggest each and every element of Claim 10. Therefore, it is respectfully submitted that Claim 10 is patentable *Martin*.

E. Dependent Claims 5 and 8

Claims 5 and 8 are patentable at least by virtue of their dependency from independent Claims 4 and 6, respectively. The patentability of Claims 4 and 6 is described above. It is respectfully submitted that because the above arguments place the independent claims in condition for allowance, these dependent claims are also believed to be in condition for allowance. However, Claims 5 and 8 also recite patentable subject matter in their own right.

Claims 5 and 8 recite the determination of whether assignment of the wireless channels is completed upon receiving the assignment request message from the mobile switching center. The assignment complete message is transmitted to the mobile switching center if assignment of the wireless channels is completed. The Examiner only cites a portion of *Martin* describing an exchange of normal messages with the result that the signaling channel is assigned, an authenticating procedure is performed, and a ciphering mode is set.<sup>11</sup> *Martin* fails to provide any disclosure relating to a determination of completion of wireless channels upon reception of a message from a mobile switching center, and the transmission of an assignment complete message to the mobile switching center if wireless channel assignment is completed, as recited in Claims 5 and 8.

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<sup>10</sup> See Final Office Action dated September 4, 2008, pages 7-8.

<sup>11</sup> See *Martin*, column 4, lines 1-9.

Therefore, *Martin* fails to teach or suggest each and every element of Claims 5 and 8, and it is respectfully submitted that Claims 5 and 8 are patentable over *Martin*.

F. Dependent Claims 2, 3, 7 and 11-16

Claims 2, 3, 7 and 11-16 are patentable at least by virtue of their dependency from independent Claims 1, 4, 6, 9 and 10. The patentability of the independent claims is described above. It is respectfully submitted that because the above arguments place the independent claims in condition for allowance, these dependent claims are also believed to be in condition for allowance.

Therefore, *Martin* fails to teach or suggest each and every element of Claims 2, 3, 7 and 11-16, and it is respectfully submitted that Claims 2, 3, 7 and 11-16 are patentable over *Martin*.


Accordingly, Appellants assert that Claims 1-16 are allowable over *Martin*, and respectfully request withdrawal of the rejection under 35 U.S.C. §102(e).

CONCLUSION

The Examiner has failed to show that all of the recitations of Claims 1-16 are taught or suggested by the art of record. Accordingly, the Examiner has failed to make out a prima facie case for an anticipation rejection.

As the Examiner has failed to make out a prima facie case for the anticipation rejection, the rejections of Claims 1-16 must be reversed.

Dated: March 5, 2009

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## CLAIMS APPENDIX

1. (rejected) A method for performing call setup by a mobile station in a mobile communication system having a base station for serving the mobile station, and a mobile switching center for controlling the base station, the method comprising the steps of:
  - entering at least one digit of a recipient's phone number;
  - transmitting to the base station, in response to the entering of the at least one digit of the recipient's phone number, an origination message that does not contain a recipient's phone number;
  - receiving a channel assignment message for a forward and reverse traffic channels from the base station, setting up wireless channels to the base station according to assignment information included in the channel assignment message; and
  - completing entry of the recipient's phone number, transmitting to the base station, in response to a send key input, an origination continuation message containing the recipient's phone number.
2. (rejected) The method of claim 1, wherein the step of setting up wireless channels comprises the steps of:
  - assigning the forward traffic channel and the reverse traffic channel corresponding thereto according to the assignment information, and transmitting a preamble over the assigned reverse traffic channel; and
  - exchanging acknowledgement (Ack) orders with the base station and performing service negotiation with the base station.
3. (rejected) The method of claim 1, wherein the origination message includes a dummy phone number consisting of all '0s'.

4. (rejected) A method for performing call setup by a base station upon a call attempt by a mobile station in a mobile communication system having the base station for serving the mobile station, and a mobile switching center for controlling the base station, the method comprising the steps of:

entering at least one digit corresponding to a recipient's phone number;

receiving an origination message, by the base station, that does not contain the recipient's phone number from the mobile station, assigning to the mobile station wireless resources and transmitting to the mobile station a channel assignment message containing the assignment information;

after transmitting the channel assignment message, assigning wireless channels to the mobile station;

after completion of the assignment of the wireless channels, transmitting to the mobile switching center a service request message requesting assignment of a wire resource when an origination continuation message, transmitted in response to a send key input, containing a recipient's phone number is received from the mobile station; and

upon receiving a wireless resource assignment request message from the mobile switching center, acknowledging the wireless resource assignment request message as a message indicating completion of the assignment of the wire resource in the mobile switching center, and transmitting a wireless resource assignment complete message to the mobile switching center.

5. (rejected) The method of claim 4, further comprising the steps of:

upon receiving the assignment request message from the mobile switching center, determining whether assignment of the wireless channels is completed; and

transmitting the assignment complete message to the mobile switching center if assignment of the wireless channels is completed.

6. (rejected) A method for performing call setup by a base station upon a call attempt by a mobile station in a mobile communication system having the base station for serving the

mobile station, and a mobile switching center for controlling the base station, the method comprising the steps of:

- receiving an origination message generated in response to the entry of at least one digit corresponding to a recipient's phone number;

- upon receiving an origination message from the mobile station, transmitting to the mobile switching center a service request message requesting assignment of a wire resource, simultaneously assigning wireless resources to the mobile station, and transmitting a channel assignment message containing the assignment information to the mobile station;

- assigning wireless channels to the mobile station; and

- if a wireless resource assignment request message is received from the mobile switching center, acknowledging the wireless resource assignment request message as a message indicating completion of the assignment of the wire resource in the mobile switching center, and transmitting, after receiving an origination complete message generated in response to the entry of a send key, an assignment complete message to the mobile switching center.

7. (rejected) The method of claim 6, wherein the assignment request message from the mobile switching center is received after a service request message is transmitted.

8. (rejected) The method of claim 6, further comprising the steps of:

- upon receiving the assignment request message from the mobile switching center, determining by the base station whether assignment of the wireless channels is completed; and
- transmitting the assignment complete message to the mobile switching center if assignment of the wireless channels is completed.

9. (rejected) A method for performing call setup by a base station upon call attempt by a mobile station in a mobile communication system having the base station for serving the mobile station, and a mobile switching center for controlling the base station, the method comprising the steps of:

upon receiving an origination message, transmitted in response to the entry of at least one digit corresponding to a recipient's phone number, that does not contain the recipient's phone number from the mobile station, transmitting a service request message requesting assignment of a wire resource to the mobile switching center, simultaneously assigning wireless resources to the mobile station, and transmitting a channel assignment message including the assignment information to the mobile station;

after transmitting the channel assignment message, assigning wireless channels to the mobile station;

after assignment of the wireless channels, transmitting to the mobile switching center a recipient's phone number when an origination continuation message, transmitted in response to entry of a send key, is received from the mobile station; and

after assignment of the wireless channels, if a wireless resource assignment request message is received from the mobile switching center in response to a service request message, acknowledging the wireless resource assignment request message as a message indicating completion of the assignment of the wire resource in the mobile switching center, and transmitting to the mobile switching center a wireless resource assignment complete message.

10. (rejected) A mobile station apparatus for performing call setup in a mobile communication system, comprising:

a key input unit for generating a key signal corresponding to a key input by a user;

a radio frequency (RF) unit for up-converting a signal to be transmitted to a base station into an RF signal, and down-converting an RF signal received from the base station into a baseband signal;

a modem for encoding and modulating data or a message to be transmitted to the base station, providing the modulated data or message to the RF unit, and demodulating and decoding the baseband signal received from the RF unit; and

a controller for

generating an origination message, in response to the entry of at least one digit of a recipient's phone number, that does not contain the recipient's phone number and providing the origination message to the modem when a dial signal is received from the key input unit,

controlling the RF unit to set up wireless channels for a forward and a reverse traffic channels and performing service negotiation upon receiving a channel assignment message, and

generating, in response to an entry of a send key input, an origination continuation message containing the recipient's phone number and providing the origination continuation message to the modem when a key input complete signal is received from the key input unit.

11. (rejected) The method of claim 10, wherein the origination message includes a dummy phone number consisting of all '0s'.

12. (rejected) The method of claim 4, wherein the step of assigning wireless channels comprises:

assigning, before input of the send key, a forward traffic channel and a reverse traffic channel corresponding thereto according to the assignment information, and transmitting a preamble over the assigned reverse traffic channel; and

exchanging acknowledgement(ACK) orders with the base station and performing service negotiation with the base station.

13. (rejected) The method of claim 4, wherein the origination message includes a dummy phone number consisting of all '0s'.

14. (rejected) The number of claim 9, wherein the step of assigning wireless channels comprises:

assigning a forward traffic channel and a reverse traffic channel corresponding thereto according to the assignment information, and transmitting a preamble over the assigned reverse traffic channel; and



exchanging acknowledgement(ACK) orders with the base station and performing service negotiation with the base station.

15. (rejected) The method of claim 9, wherein the origination message includes a dummy phone number consisting of all '0s'.

16. (rejected) The number of claim 10, wherein the step of setting up the wireless channels comprises:

assigning a forward traffic channel and a reverse traffic channel corresponding thereto according to the assignment information, and transmitting a preamble over the assigned reverse traffic channel; and

exchanging acknowledgement(ACK) orders with the base station and performing service negotiation with the base station.

## **EVIDENCE APPENDIX**

There is no evidence submitted pursuant to 37 C.F.R. 1.130, 1.131, 1.132 or entered by the Examiner and relied upon by Appellants.

**RELATED PROCEEDINGS APPENDIX**

There are no known decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 C.F.R. 41.37.